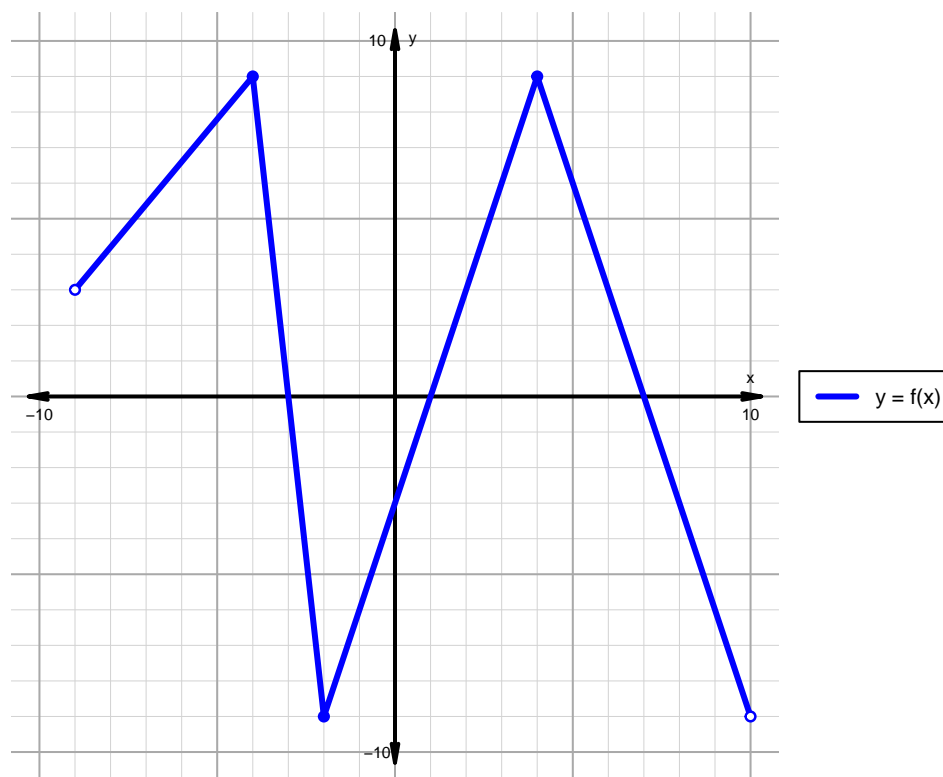


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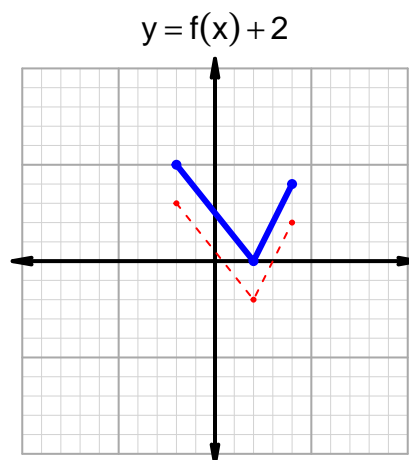
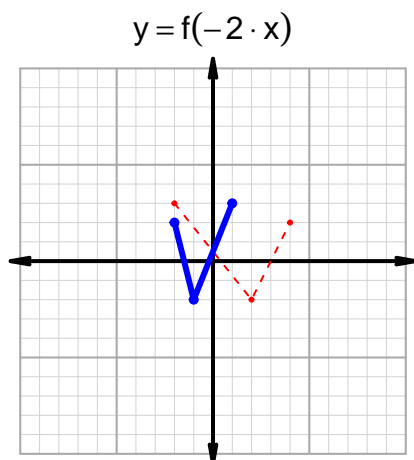
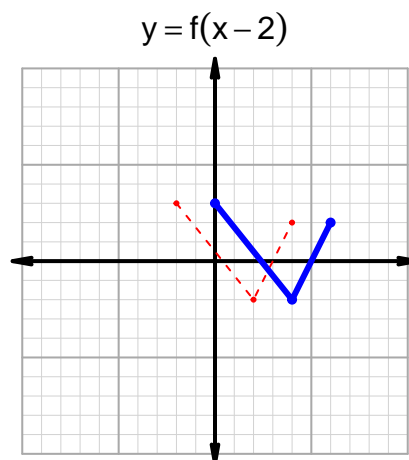
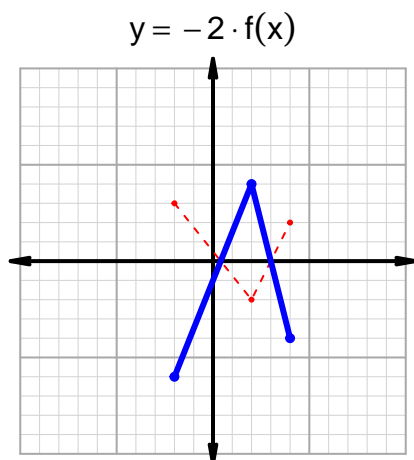
Intervals, Transformations, and Slope Solution (version 37)1. The function f is graphed below.

Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-9, -3) \cup (1, 7)$
Negative	$(-3, 1) \cup (7, 10)$
Increasing	$(-9, -4) \cup (-2, 4)$
Decreasing	$(-4, -2) \cup (4, 10)$
Domain	$(-9, 10)$
Range	$(-9, 9)$

Intervals, Transformations, and Slope Solution (version 37)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 63$ and $x_2 = 78$. Express your answer as a reduced fraction.

x	$g(x)$
63	89
78	95
89	78
95	63

$$\frac{f(78) - f(63)}{78 - 63} = \frac{95 - 89}{78 - 63} = \frac{6}{15}$$

The greatest common factor of 6 and 15 is 3. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{2}{5}$$